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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,123	10/30/2001	Takehiro Fujita	FUJS 19. 099	2408
7590 03/17/2005 HELFGOTT & KARAS, P.C. 60th Floor Empire State Building New York, NY 10118			EXAMINER MEEK, JACOB M	
			ART UNIT 2637	PAPER NUMBER

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/023,123	Applicant(s) FUJITA ET AL.	
	Examiner Jacob Meek	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 3 is/are rejected.
- 7) ☒ Claim(s) 4 - 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 – 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald (US Pub 2002/0044618 A1).

With regard to claim 1, Buchwald teaches a parallel signal automatic phase adjusting circuit having a number of data signal channels inputted together with a clock signal and adjusting the clock signal so that clock signal is synchronized with each of the data signals (see page 3, paragraph 0031); comprising a signal generator for generating a signal having a predetermined frequency smaller than a frequency which is utilized as data signal or clock signal (see figure 3, 334 and page 5, paragraph 0094 where this is interpreted as equivalent), an oscillating circuit for generating a clock signal having a frequency smaller than inputted clock signal by predetermined frequency generated by the signal generator (see figure 3, 330, 332 and page 5, paragraph 0094 where this is interpreted as equivalent), and adjusting circuits provided in correspondence to respective data channels (see figure 21) for effecting adjustment on clock signal generated from oscillating circuit so that clock signal is synchronized with corresponding data signal (see page 7, paragraphs 0123 – 0126 where this is interpreted as equivalent). Buchwald is silent on the adjustment based on the arithmetic operation of trigonometric function for adjustment of clock data phase relationships. Buchwald does describe a phase controller function in detail (see page 5, paragraph 0095 –

page 6, paragraph 0100), and given the function illustrated in Figure 7A, it would have been obvious to one of ordinary skill in the art at the time of invention that trigonometric functions would be applicable for the manipulation of phase relationships of signals.

With regard to claim 2, Buchwald teaches a parallel signal automatic phase adjusting circuit having a number of data signal channels inputted together with a clock signal and adjusting the clock signal so that clock signal is synchronized with each of the data signals (see page 3, paragraph 0031); comprising an oscillating circuit for generating a clock signal having a frequency smaller than inputted clock signal by predetermined frequency generated by the signal generator (see figure 3, 330, 332 and page 5, paragraph 0094 where this is interpreted as equivalent), and adjusting circuits provided in correspondence to respective data channels (see figure 21) for effecting adjustment on clock signal generated from oscillating circuit so that clock signal is synchronized with corresponding data signal (see page 7, paragraphs 0123 – 0126 where this is interpreted as equivalent). Buchwald teaches the adjustments of clocks based on phase comparison (see page 5, paragraph 0092), and frequency information (see page 5, paragraph 0092). Buchwald is silent on the adjustment based on the arithmetic operation of trigonometric functions. Buchwald does describe a phase controller function in detail (see page 5, paragraph 0095 – page 6, paragraph 0100), and given the function illustrated in Figure 7A, it would have been obvious to one of ordinary skill in the art at the time of invention that trigonometric functions would be applicable for the manipulation of phase and frequency relationships of signals.

With regard to claim 2, Buchwald teaches a parallel signal automatic phase adjusting circuit having a number of data signal channels inputted together with a clock signal and adjusting the clock signal so that clock signal is synchronized with each of the data signals (see page 3, paragraph 0031); comprising adjusting circuits provided in correspondence to

respective data channels (see figure 21) for effecting adjustment on clock signal generated from oscillating circuit so that clock signal is synchronized with corresponding data signal (see page 7, paragraphs 0123 – 0126 where this is interpreted as equivalent) wherein each of the adjusting circuits is arranged to include a phase comparator for comparing the clock signal and data signal in phase (see figure 22, 2212a and page 17, paragraph 0250) and. Buchwald teaches the adjustments of clocks based on phase comparison (see page 5, paragraph 0092), and frequency information (see page 5, paragraph 0092). Buchwald is silent on the adjustment based on the arithmetic operation of trigonometric functions. Buchwald does describe a phase controller function in detail (see page 5, paragraph 0095 – page 6, paragraph 0100), and given the function illustrated in Figure 7A, it would have been obvious to one of ordinary skill in the art at the time of invention that trigonometric functions would be applicable for the manipulation of phase and frequency relationships of signals.

#### ***Allowable Subject Matter***

Claims 4 – 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Other Cited Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe (US-2002/0009169), Shastri (US Patent 6,552,619), Koyanagi et al (US 6,636,993), Lai (US 6,700,942) and Saito (US 6,813,724) all disclose methods of phase adjustment germane to applicant's invention. Saeki (US-2002/0044618) discloses a phase adjustment technique that appears relevant to

applicant's invention but US priority is after applicant's foreign priority date, however Saeki does claim earlier foreign priority.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM



JAY K. PATEL  
SUPERVISORY PATENT EXAMINER